

BENCHMARKS

THE COMPUTING CENTER

University of North Texas

VOLUME 9 NUMBER 5

OCTOBER 1988

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SERVICES AVAILABLE TO USERS OF THE UNT COMPUTING FACILITIES

The UNT Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center: (817) 565-2324
 Help Desk: (817) 565-4050
 Graphics Lab: (817) 565-3479
 ISB I/O Area: (817) 565-3890
 BAI/O Area: (817) 565-2350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on MUSIC/SP (ID-codes follow each name. All IDs are on BITNET node UNTMUSIC).

BENCHMARKS - Claudia Lynch (AS04)

Information & ID-Codes; Disk Space Problems - Marilyn Jett

Statistical/Research Support - George Morrow (AS01), Panu Sit-tiwong (AC09), Phanit Laosirirat (AC44)

Academic ADABAS/COM-LETE - Janis Burkhart (AC55)

CRSP & COMPUSTAT Problems - George Morrow (AS01), Phanit Laosirirat (AC44)

Student Programming Problems - CSC Dept., GAB Room 542A; BCIS Dept., BA Room 152

Problems with JCL, Passwords, or Operating Systems; or Communication/Terminal Problems - Help Desk

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BA I/O Operators



DIALING-UP UNT COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565-3300, (817) 565-3499

2400/1200/300 BAUD: D/FW METRO 429-6006, 429-9314

Area code 214 must dial 817 before the METRO number.

The numbers that accommodate multiple baud rates have an autobaud feature that requires you to hit the <RETURN> key repeatedly so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, the # prompt will appear on your screen and you can enter one of following CALL commands to connect with the computer of your choice.

CALL 8040 connects with the NAS/8083 (supports line editing or PCWS). Operating environments available are: MUSIC/SP, VM/CMS.

CALL 3270 connects with the NAS/8083 through a 3270 protocol converter (supports full-screen editing). Operating environments available are: MUSIC/SP, VM/CMS, ADABAS/COM-LETE, PHOENIX

CALL DEC connects with the VAXcluster (VMS, Eunice)

CALL 780 connects with the Research VAX (Unix)

CALL 3000 connects with the Libraries' HP-3000 (Bibliographic data base).

CALL 6800 connects with the NBI (Unix)

Communications Settings

LAN addresses	Data Bits	Parity	Stop Bits
DEC, 3000	8	N	1
8040, 3270, 780, 6800	7	E	1

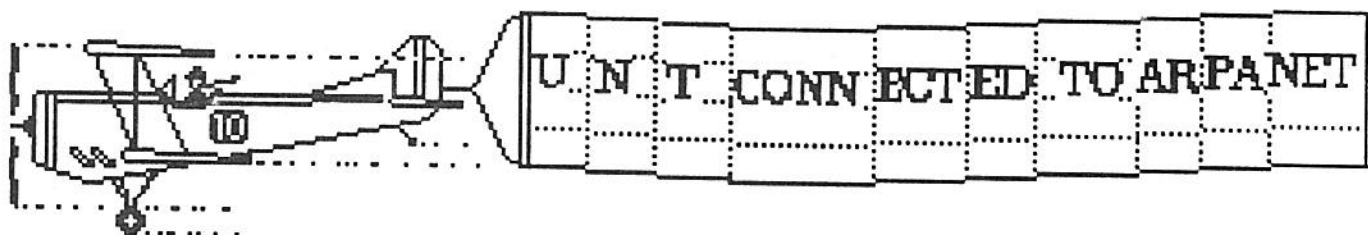
HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : FALL 1988*

Location	Times	Days
Computing Center RJE	Noon-Midnight 7 a.m.-Midnight 7 a.m., Tuesday-Midnight, Saturday (Open 24 hours/day)	Sunday Monday Tuesday-Saturday
ISB 110 Terminal Area	2-10 p.m. 7:30 a.m.-Midnight 7:30 a.m.-6 p.m. 9 a.m.-6 p.m.	Sunday Monday-Thursday Friday Saturday
College of Business	Noon-11:45 p.m. 8:15 a.m.-11:45 p.m. 8:15 a.m.-7:45 p.m.	Saturday, Sunday Monday-Thursday Friday
GAB 550C	2 p.m.-Midnight 8 a.m.-Midnight 8 a.m.-5 p.m. 2 p.m.-8 p.m.	Sunday Monday-Thursday Friday Saturday
Graphics Lab	Noon-10 p.m. 8 a.m.-11 p.m. 8 a.m.-6 p.m. Noon-5 p.m.	Sunday Monday-Thursday Friday Saturday

*Hours may vary. Check MUSIC/VAX News and/or posted schedules for exceptions.

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GENERAL INFORMATION



TCP/IP and the ARPA Internet - Part I

By Billy Barron, VAX System Manager (BILLY@UNTVAX) and Darrell Davis, Former VAX Programmer/Operator

Editor's Note: This is the first in a series of articles discussing the ARPA Internet.

The VAXcluster, the Research VAX, the NBI, and several microcomputers on campus are now connected to the ARPA Internet. The ARPA Internet is made up of several research related networks including ARPANET, NSFNET, MILNET, and parts of CSNET. The members of the ARPA Internet include many universities, companies, and US government computer centers.

The software used by the ARPA Internet is called TCP/IP. TCP/IP (Transmission Control Protocol/Internet Protocol) is a suite of protocols that link dissimilar computer systems over local-area and wide-area networks. TCP/IP's user interface is a

series of programs that include TELNET, FTP, and SMTP. The TELNET program allows local users to log into most of the hosts on the ARPA Internet if they have accounts on the remote machine. FTP (File Transfer Protocol) is an utility to copy files between various machines. SMTP (Simple Mail Transfer Protocol) allows MAIL to be sent between any two machines on the Internet.

An ARPA Internet address specifies a network host on the ARPA Internet. An ARPA Internet host name consists primarily of two parts: a host and a domain. A domain is a group of computers in one organization. The domains are organized as a tree according to organizational or administrative boundaries. Each node of the tree, or domain, is given a label and a label needs only be unique within its domain. The name of the domain is the concatenation of all the labels of the domains from the root to the current domain, listed from right to left separated by dots.

The ARPA Internet is made up of several top-level domains:

- EDU - educational organizations
- GOV - civilian government organizations
- MIL - Department of Defense
- NET - administrative organizations for networks such as CSNET, UUCP, and BITNET
- ORG - other organizations

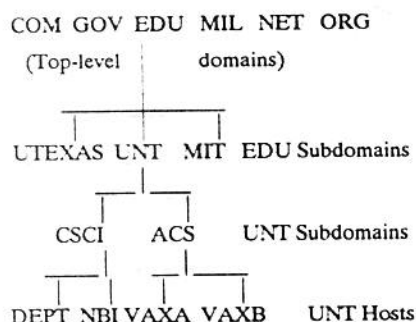
Since UNT is a university, UNT falls under the EDU domain. The UNT subdomain of EDU is "UNT". Thus, the "full" UNT domain is "UNT.EDU". Currently, the UNT.EDU domain is divided into two subdomains: ACS (Academic Computing Services) and CSCI (Computer Science department).

The host names for the major University of North Texas hosts are:

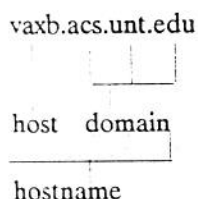
VAXcluster	
VAXA	vaxa.acs.unt.edu
VAXB	vaxb.acs.unt.edu
ResearchVAX	dept.csci.unt.edu
NBI	nbi.csci.unt.edu

- COM - commercial organizations

The figure below shows how a host at UNT fits into the hierarchy of domains.



The following is a diagram showing the official Internet host name for VAXB on the UNT VAXcluster and how it is made up of host and domain names.



See the ARPANET, TCPIP, TELNET, FTP, TCPFINGER, NSLOOKUP, and MAIL HELP topics on the VAXcluster for more information. ♦

IMSL Library Updated

The IMSL Library has undergone a major revision, resulting in the creation of three separate new and improved libraries, collectively referred to as the IMSL Library Edition 10. The three libraries are:

- **MATH/LIBRARY** Version 1.0 - general applied mathematics.
- **STAT/LIBRARY** Version 1.0 - statistics.
- **SFUN/LIBRARY** Version 2.0 - special functions.

You may continue to refer to these subroutines by calling them from a FORTRAN program that is compiled and linked by the procedure

FORVCLG. References to the old IMSL Library (edition 9.2 and prior) routines will be automatically routed to the new routines through the IMSL Interface Library.

Further information about the IMSL Libraries can be obtained from George Morrow, Academic Computing Services Consultant, 565-2324. ♦

UNT Featured in INFOWORLD Article

UNT was one of the universities featured in a recent article about the Texas Higher Education Network (THE-Net) in *INFOWORLD*, a widely read magazine in the computer industry.¹ The article discusses "the nation's largest state academic network," describing the various services offered on THE-Net and the universities that it serves.

One of the major advantages of THE-Net is the ability to access information instantly. Spanning more than 3,000 miles through five distinct geographical regions, THE-Net offers 10,00-plus users the ability to access a number of on-line computer information services and communicate with organizations not previously available to them. Dave Molta, Manager of Academic Computing Services here at North Texas, is quoted as stating "It takes a lot of effort to install and configure software. THE-Net allows people throughout the state to access applications remotely to evaluate the software and determine if they want to invest in it."

THE-Net has been discussed in *Benchmarks* many times in the past (it used to be called TEX-Net). The most recent mention of THE-Net was in the 1988 August/September issue, in the "Welcome Back" article and the "Wide Area Network Handout Available" article. If you are interested in more information about THE-Net, contact Academic Computing Services (817) 565-2324.

¹"Network Brings Academic Computing to Thousands," INFOWORLD September 19, 1988, p. S4. ♦

Wide Area Networks Handout Corrected

Several corrections have been made to the Wide Area Networks handout (*Making Connections: An Introduction to the Use of Wide Area Networks at the University of North Texas*) announced in last month's *Benchmarks*. If you received a copy of the handout before 9/28/88 you should make note the folloing changes:

- Page 4 - The Research VAX in the Computer Science department is now a part of CSNET.
- Page 5 - The current nodenames for the VAXen, due to some very complex reasons, are UNTVAX, NTSUVAXA, and NTSUVAXB.
- Page 20 - The first return address, for ARPANET, CSNET, and NSFNET should read:

userid%NTVAXB.DECNET@
UNTADNX.CC.UTEXAS.EDU



Text Archives for the Liberal Arts Researcher

By Tim Rindflesch, University of Minnesota Computing Center - TCR@UMNACVX (Reprinted, with minor alterations, from the University of Minnesota Academic Computing Services and systems publication, *The ACSS Newsletter*).

It is becoming increasingly popular to use the computer for text analysis, a technique in which texts of often considerable size are scrutinized for content, linguistic structure, or for other characteristics, such as scribal practice.

If you are interested in using the computer to analyze large amounts of text, the first problem you face is making the textual material accessible to the programs being used. If you have the data available in printed form, it is possible to use a scanner to read the printed material into the computer. However, amassing large amounts of printed text represents a considerable investment of time and money. You may therefore want to take advantage of texts that are already available in machine-readable form.

The following two organizations provide machine-readable texts (on either magnetic tapes or floppy disks) to researchers at a reasonable cost:

Norwegian Computing Centre for the Humanities
P.O. Box 53, Universitet,
N5027 Bergen, Norway
BITNET: FAFSERV@NOBERGEN

Oxford Text Archive
Oxford University Computing Service
13 Banbury Rd.
Oxford OX2 6NN, England
JANET:
ARCHIVE@VAX> OSFORD.AC.UK

The Norwegian Computing Centre for the Humanities

The Norwegian Computing Centre for the Humanities specializes in large corpora (up to a million words) of modern English, representing written material as well as transcripts of conversations, which include information on pauses and intonation. (Audio tapes of the spoken corpora are also available.) In addition to the Brown Corpus and the LOB (Lancaster-Oslo/Bergen) corpus of American and British English respectively, they have large samples of Australian and Indian English. Some of these texts are available in both a tagged and an untagged version where the tagged version includes grammatical information about each word in the text. They also offer complete concordances of selected corpora.

The price of these materials ranges from modest to considerable. For example, the Brown Corpus (a million words, untagged) costs \$70. A tagged version of the LOB Corpus costs about \$225. A complete concordance of the tagged LOB Corpus is \$600 (five 2400-foot magnetic tapes).

The Oxford Text Archive

The corpora offered by the Oxford Text Archive are not as large as those of the Norwegian Computing Centre for the Humanities, but Oxford has a much wider range of material: some 800 texts of varying size in twenty-five languages, including English and other European languages, as well as Classical Greek, Latin, Sanskrit, and Arabic, in addition to less well known languages like Fufulde and Malayan.

Most of the texts are standard literary works; however, some are transcripts of dictionaries. (The total size of the Oxford Text Archive is 1000 megabytes.) The prices of the Oxford texts are quite reasonable. The Archive charges separately for the texts and for the magnetic media on which the texts are provided. Dictionaries are \$100, while all other texts are \$10 per text. There is an additional charge

of either \$50 for a magnetic tape or \$30 for a floppy disk.

Both organizations ask that purchasers sign a statement that materials will be used for non-profit research only. Prepayment is required.

If you would like more information about these archives, contact Claudia Lynch at the UNT Computing Center, 565-2324 (AS04@UNTVM1). ♦

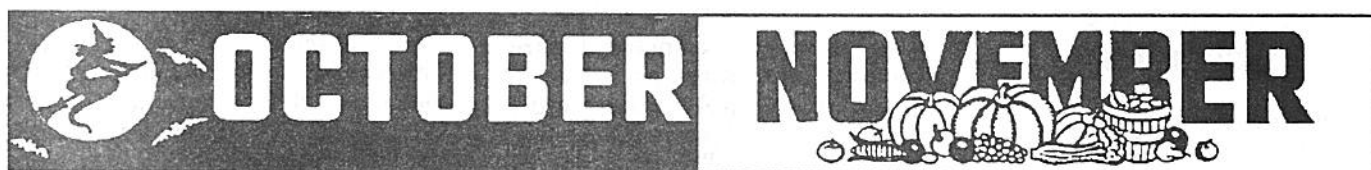
You Say "Affect," I Say "Effect" . . .

By Claudia Lynch, *Benchmarks*
Editor (AS04@UNTVM1)

Benchmarks readers, in an unprecedented flurry of responses, have set the record straight on the usage of the words "affect" and "effect". It all started rather innocently, when I consulted the dictionary on the usage of these words and *misread* the definitions. The result of this confusion was the headline in the June/July issue of *Benchmarks* that read "University Name Change Effects Computer Users." The title, of course, should be "University Name Change Affects Computer Users." Here is what *Webster's Ninth New Collegiate Dictionary* (1983, Springfield Mass., p. 397) has to say about *effect* (I "missed" the word *noun* in the last sentence).

²*effect* *vt* (1589) 1. to cause to come into being 2 *a*: to bring about often by surmounting obstacles: ACCOMPLISH < ~ a settlement of a dispute > *b*: to put into effect < the duty of the legislature to ~ the will of the citizens > *syn* see PERFORM

usage The confusion of the verbs *affect* and *effect* is not only quite common but has a long history. . . The noun *affect* is sometimes mistakenly used for *effect*. Except when your topic is psychology, you will seldom need the noun *affect*. ♦



Computing Center Short Courses

The Computing Center is offering the following short courses during the latter portion of the 1988 Fall Semester. Please pre-register to attend (a registration form is provided at the end of this issue). **A maximum of 15 people will be admitted to each of the Introduction to MUSIC/SP classes, parts I & II. A maximum of 20 people will be admitted to each of the remaining classes.**

1. **Introduction to MUSIC/SP, Part I** – MUSIC/SP is the primary interactive operating system employed by most academic users to access the NAS/8083 IBM-compatible mainframe computer at UNT. MUSIC users have access to a variety of programming languages, a sophisticated word processing system, and several statistical analysis packages. MUSIC also gives you the capability to submit batch jobs to the MVS operating system. Topics covered include gaining access over the Local Area Network, logging on and off, changing your password, and creating, editing, and storing files using the full-screen editor.

Three separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Monday, October 24: 6--8 p.m.
 Tuesday, October 25: 10 a.m.--Noon
 Wednesday, October 26: 9--11 a.m.

Instructor: Kevin Mullet
 Instructor: Panu Sittiwong
 Instructor: Janis Burkham

2. **Introduction to MUSIC/SP, Part II** – This course provides an in-depth look at various useful programs and utilities that are available on MUSIC/SP. Topics covered include accessing on-line help facilities, using electronic mail, routing output to high-speed printers, and writing files to secondary storage such as disk and tape. **A working knowledge of MUSIC is required.**

A two-hour session to be held in Room 110 of the Science Library (ISB):

Monday, October 31 : 3--5 p.m.

Instructor: Philip Baczewski

3. **Introduction to SAS** – SAS is one of the most widely implemented data analysis systems within business and education. SAS is particularly well suited for data set manipulation and includes an extensive procedure library providing a wide range of analytical tools. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SAS, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. **Prior knowledge of MUSIC/SP is required.**

A two-hour session to be held in Room 110 of the Science Library (ISB):

Thursday, October 27: 1--3 p.m.

Instructor: Phanit Laosirirat

4. **Introduction to SPSS^X** – SPSS^X is the latest version of this popular data analysis system originally developed for social scientific research. While SAS is slightly more powerful for the analysis of complex datasets, many users find SPSS^X to be easier to learn. SPSS^X also includes more flexible facilities for collapsing and labeling variables. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SPSS^X, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. **Prior knowledge of MUSIC/SP is required.**

A two-hour session to be held in Room 110 of the Science Library (ISB):

Friday, October 28: 9--11 a.m.

Instructor: Phanit Laosirirat

- 5. File Handling with SAS, SPSS^X, and BMDP** – Anyone who uses these common statistical packages frequently should be aware of procedures available to simplify reading and processing datasets. Variable formats, labels, and computed variable information can be stored in a dataset and recalled in a future job with one command. This course shows you how to use simple JCL along with the statistical software to make your jobs run much more quickly and smoothly. Familiarity with at least one of the packages mentioned is necessary.

A two-hour session to be held in ISB 123:

Tuesday, November 1: 9--11 a.m.

Instructor: Claudia Lynch

- 6. Introduction to VAX/VMS, Part I** – VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAXcluster. Nearly all popular programming languages are supported under VMS. The topics covered in this course include gaining access to the VAXcluster through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, and defining logicals and symbols.

A two-hour session to be held in Room 110 of the Science Library (ISB).

Wednesday, October 26: 3--5 p.m.

Instructor: Kevin Mullet

- 7. Introduction to VAX/VMS, Part II** – This course provides a more detailed examination of VMS commands and utilities. The topics covered in this course include use of the electronic mail and messaging systems, creating command files, advanced editing using TPU, and sending mail through BITNET. Prior experience using VAX/VMS is required.

A two-hour session to be held in Room 110 of the Science Library (SB).

Tuesday, November 1: 3--5 p.m.

Instructor: Billy Barron

- 8. Introduction to BITNET** – BITNET is a network linking more than 600 computers at over 300 institutions and research centers. This course covers the basic concepts of BITNET, file transfers across BITNET sites, and other services that are available on this computer network. Faculty and graduate students needing to exchange information with other universities and research institutions in the U.S., Canada, Europe, or Japan will benefit greatly from attending this course. Prior knowledge of at least one of the following interactive operating systems is required: CMS, MUSIC, VAX.

A two-hour session to be held in the Academic Computing Conference Room (ISB 123):

Wednesday, November 2: 10 a.m.--Noon

Instructor: Philip Baczewski

- 9. Introduction to PROCOMM and PCWS** – Both of these short courses deal with Personal Computer to mainframe communications. **Introduction to PCWS** presents an overview of using PC Work Station, a communications package which is specifically written to allow terminal access and file transfer capabilities between an IBM PC or compatible and the MUSIC/SP operating system. Topics covered include setting up PCWS communications parameters, connecting to MUSIC over the UNT local area network, using PCWS's full-screen capabilities, and using PCWS for file transfer between MUSIC and the PC. **Introduction to Procomm** presents an overview of the Procomm communications package for Personal Computers or compatibles. Procomm provides several different terminal emulation modes, and supports several file transfer protocols including KERMIT and XMODEM. Topics covered include setting communications and file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT mainframes through the local area network.

These courses will be held in Terrill Hall, room 247, at the following times:

Introduction to Procomm:

Thursday, November 3, 2--3 p.m.

Instructor: Kevin Mullet

Introduction to PCWS:

Thursday, November 3, 3--4 p.m.

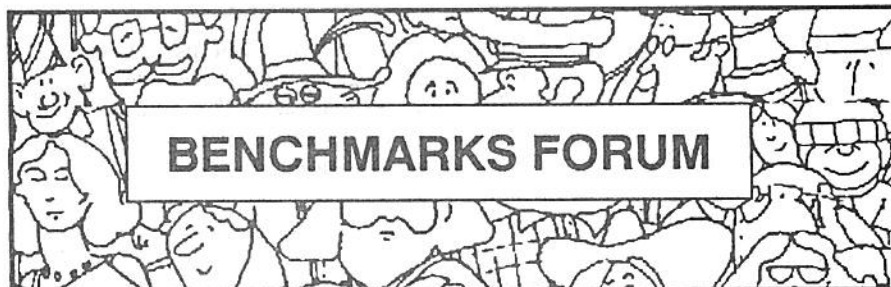
Instructor: Kevin Mullet

'Computer Terms,' According to the Associated Press

By Claudia Lynch, *Benchmarks*
Editor (AS04@UNTVM1)

The Associated Press (AP) has a manual entitled *Associated Press Stylebook and Libel Manual: The Journalist's Bible*, which has a section called "Computer Terms" which is chock-full of misconceptions. Dimitri Vulius, of the CUNY Graduate School Department of Mathematics (DLV@CUNYVMS1), and his wife, Maryam Inzel, of the Fordham University College at Lincoln Center Department of Science and Math, set about to try to have the errors corrected. They didn't have much luck with AP, so Mr. Vulius has taken to sharing the "funnier" definitions with the computer community. Following are a few choice ones.

- **ASCII** - An acronym for American Standard for Computer Information Interchange. It is used for communications among most computers and is usually sent in seven-bit word length.
- **Artificial Intelligence** - A computer that thinks like a human.
- **Bulletin Board** - In videotex, a bulletin board consists of public messages contributed by the individual computers users. The messages can be read by anyone connected to the system.
- **DOS** - An acronym for disk operating system. Spell it out. It is composed of one or more diskettes on which data can be stored and one or more disk drives to read the information stored on disks.
- **Global Search** - a search that covers all data stored in a computer.
- **Holograph** - a three-dimensional image generated by a computer.
- **Intelligent Terminal** - a programmable terminal. ♦



BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the *Benchmarks* editor (AS04@UNTVM1) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.

Question: *I received a copy of PROCOMM from the Computing Center, but I can't execute it, Why?*

Answer: PROCOMM is distributed as an ARChived file so that all the files can be contained on one 360K diskette. You must de-archive the PROCOMM files before you can execute the program. If you check the directory of the PROCOMM diskette, you will see two files with the extension of ARC. The file named PC242.ARC contains all the PROCOMM system files, and the file named PC24DOC.ARC contains all the PROCOMM documentation. Enter the command READ at the DOS prompt, to get information on how to de-archive the PROCOMM

files. The de-archived version of PROCOMM will work fine.

Question: *I need to access the Video Store Demo Database in ADABASA. Should I sign on to STNATA, STNATB, or STNATC to write and submit my NATURAL programs?*

Answer: All three sign-ons will provide you access to the Video Store Demo Database.

Question: *I signed-on to STNATA to write and submit my NATURAL programs to access my team's database files which reside on ADABASB. My programs won't work and I am denied access to my team's database files. What's wrong*

Answer: If your team's database files reside on ADABASB, then you must write and submit your NATURAL programs in STNATB. Unlike the Video Store Demo Database, database files created by ADABAS users in BCIS classes must be accessed with the NATURAL system assigned to the ADABAS system (A, B, or C) in which the user-created database files reside. ♦

Benchmarks Reader/User feedback is encouraged. Send all letters, suggestions, etc to (AS04@UNTVM1) or to the Benchmarks Editor at:

**University of North Texas
Computing Center
NT Station, Box 13495
Denton, Texas 76203**



MICROCOMPUTERS

PCWS Tutorial

Customize Your MUSIC Editing in PCWS

By Philip Baczewski, MUSIC
Time-Share Coordinator
(AC12@UNTMUSIC)

MUSIC users who commonly employ PCWS to access MUSIC from the PC may be interested in exploring some features of PCWS which allow the customization of the MUSIC editing environment. PCWS (Personal Computer Work Station) is a communications package which provides 3270 terminal emulation support on IBM Personal Computers or compatibles accessing MUSIC. Because PCWS provides the terminal emulation mostly on the PC side of the connection, it is possible to define commonly used PC keystrokes to accomplish their equivalent on MUSIC.

There are two specific features of PCWS which allow the user to change the PCWS editing environment. The PCWS Function Key Facility allows you to change the keystroke definitions for each mode of terminal emulation (Page mode, 3270 mode, and VT100 mode). The PCWS Entry Assist feature provides extra editing features without the need for extra features in MUSIC's Context Editor.

When using the PCWS Function Key Facility, most users will only want to modify the 3270 mode keystrokes, since these are the ones used in the MUSIC editor as well as in other full-screen utilities. A simple but very useful example of key definition is

enabling the use of the **Page Up** and **Page Down** keys on the PC to control a function of the MUSIC editor.

In the normal MUSIC editing environment, **PF7** is set to **UPPAGE** and **PF8** is set to **DOWNPAGE**. To also set **Page Up** and **Page Down** to these functions, first enter PCWS's Function Key Facility, by pressing **ALT-N**. To modify 3270 mode key strokes you can then select 2 from the Function Key Facility menu. Next, press **Page Down** until you get to 3270 Mode Function key settings menu 3. The last two 3270 key functions listed in this menu are **PF7** and **PF8** and you will see that the keystrokes associated with those functions are the PC **F7** and **F8** keys.

To associate **Page Up** with **PF7**, use the arrow keys to move down and over until the cursor is sitting in the Keystroke2 field on the same line as **PF7**. Then press **F1** followed by the **Page Up** key. You will see the "PgUp" designation appear. Follow the same procedure for associating **Page Down** with **PF8**. To make these changes permanent, press **Esc** (escape key) to exit the 3270 mode function menu and then press **F3**. These settings are stored in the file **PC#WS.KEY**.

Once the above changes have been made, your PC **Page Up** key will perform a **PF7** function and your **Page Down** key will perform a **PF8**. Since the MUSIC editor and most full screen utilities use **PF7** and **PF8** for **UPPAGE** and **DOWNPAGE**, these PC keys become very useful when you are using MUSIC through PCWS. All of your PC keys can be assigned a function except the alphanumeric

keys (a-z, 1-0, and symbols) and the Control alphanumeric keys. This still leaves most of the PC special function keys and all of the **ALT**-alphanumeric combinations for assignment to MUSIC **PF**-key functions.

The Entry Assist Function of PCWS allows you to establish margins, tab stops, and end-of-line signal position. Entry Assist also enables key-press functions such as word-left, word-right, word delete, and tab to end of line, as well as a cursor position display. Entry Assist can be set to on or off in the PCWS set-up menu 5 and can also be toggled from terminal mode by pressing **ALT-D** (Document mode). With Entry Assist on, **CTRL- <right arrow>** will move to the beginning of the next word and **CTRL- <left arrow>** will move to the beginning of the previous word. **CTRL- <delete>** is the default setting for deleting the word on which the cursor is positioned.

If Entry Assist is on, you can press **ALT-F** to invoke the Format Change scale line. This scale line shows the horizontal positions of the PC screen (remember that the MUSIC full-screen editor's input area is positions 5 through 76). A block cursor will also appear on the scale line. Pressing the **Tab** key sets a tab stop at the cursor position. A tab stop can be cleared by moving the cursor over it and pressing the **Delete** key.

The left margin can be set by positioning the cursor and pressing the **<** (less than sign) key and the right margin can be set similarly by pressing the **>** (greater than sign) key. An audible end-of-line signal (like the typewriter

bell) can be set by positioning the cursor and pressing the * (asterisk). This signal position can also be cleared using the delete key. Once you have set your Entry Assist format, you can make the changes permanent by pressing F3 while the Format Change scale is displayed. These changes are stored in the file PC#WS.ENT.

Once you have Entry Assist margins set, you can take advantage of another PCWS feature. In Input Mode, the Word Wrap feature will cause words that would overrun the left margin of a line to be placed on the next line. Word Wrap will also operate in Insert mode if there is enough space on the next line for the word to be "wrapped." You can set Word Wrap to on or off in PCWS set-up menu 5. Word Wrap can also be toggled from terminal mode by pressing ALT-W. To use Word Wrap, Entry Assist must be turned on.

Care should be taken when changing your PCWS key definitions. When you are assigning a new function to a key, remember to check and make sure it is not already performing an important function. For further information on the PCWS features discussed here, refer to the *Personal Computer Work Station User's Guide* (available at the UNT University Store for \$2.50). An explanation of the Function Key Facility is also found in the *Customizing PCWS* section of PCWS's on-line help facility (ALT-H). ♦

Latest Version of IBM KERMITS Available

The new release (Version 2.3) of KERMITS for the IBM/PC and compatibles is available at the Computing Center. This release of KERMITS provides better VT-100 emulation than the previous releases have. In addition, it provides Tektronix 4010 Graphic Terminal emulation. If you are interested in running SAS/GRAPH and/or DISSPLA you may want to acquire this version of KERMITS. ♦

OFFICE AUTOMATION NEWS

Maintenance Release of WordPerfect 5.0

WordPerfect has sent Office Automation the latest maintenance release of WordPerfect 5.0. Most of you are using the first release that has a date of May 1988. The "fixes" will be included in the new maintenance release.

If you would like to have the most current release copied on your machine, bring the original diskettes to Marquis Hall, Room 105 and I will copy the WordPerfect 1, WordPerfect 2, and Conversion diskettes. **Please call 3856 and make sure I am here before coming over.** I have to have the original diskettes to avoid making illegal copies.

If you have a printer problem and the most recent printer definition, they also sent me 6 printer diskettes to include the latest printers. Included in this is the fix for the Epson FX86E printer. Bring an extra diskette if you would like your printer definition copied to a diskette.

Help Books for WordPerfect 5.0

I was at the Mall last week and stopped at Software Etc. I counted twelve books to help the users with WordPerfect 5.0. The latest copy of "WordPerfectionist" the newsletter published by WordPerfect Support Group (Vol III No 2), stated that more than 30 books on some aspect of 5.0 are currently in preparation.

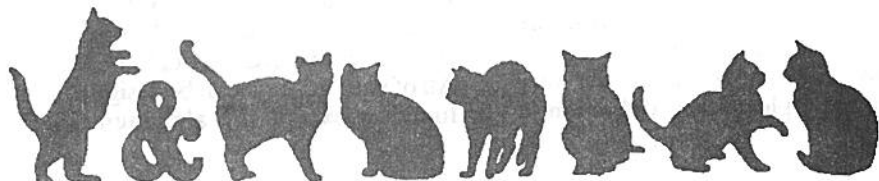
The WordPerfectionist reviewed three books on WordPerfect for beginners. The first was *Mastering WordPerfect 5* by Susan Baake Kelly. According to the reviewers, this book has a clear, no-nonsense style that will give you a good introduction to the

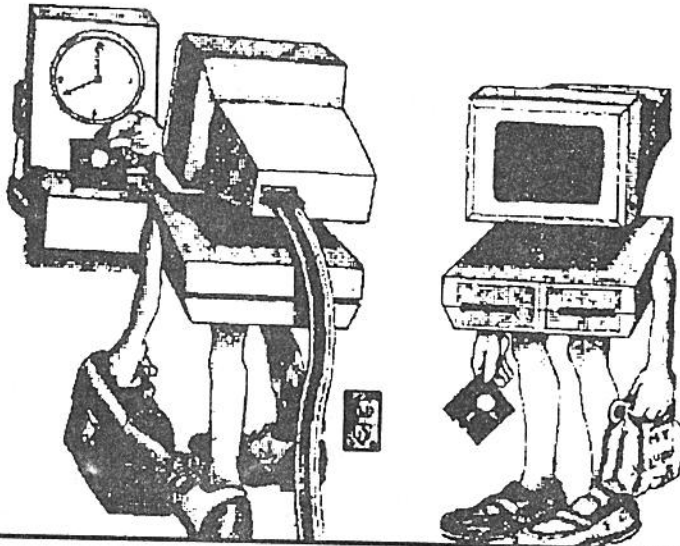
possibilities of WordPerfect 5.0. It was held at the printer's until the author could purchase a copy of 5.0 retail and verify the book's contents. An entire chapter is devoted to using graphics.

Using WordPerfect 5, by Charles O. Stewart, III, & The Gang of Twelve, is touted to be an ideal choice for most current and potential 5.0 users. The review said owning this book is like having a panel of experts immediately available to answer your questions about WordPerfect 5.0. Be sure to get the second printing of the book which has the picture of a computer screen with "PC News" on the front cover. The book's chief author and project coordinator, selected most of the book's authors from the WordPerfect Support Group CIS Forum contributors.

Another book reviewed was *Best Book of: WordPerfect Version 5.0*, by Vincent Alfieri. Several of his illustrations were display screens were from the beta version of 5.0, and some of his statements that were true of the beta version were fixed by the time the program shipped (4.2 macros cannot be converted to 5.0 when in fact this was not true when shipped). Graphics is not handled very extensively. The WordPerfect Support Group decided not to recommend the book at this time, although they might recommend a revised future edition. Books recommended but not reviewed were: *WordPerfect Series 5: The Complete Reference* by Karen Acerson and *Advanced WP: Series 5* by Eric Alderman.

"Office Automation News" was submitted by Sandy Franklin, Office Automation Specialist.





Micro-Tips

This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the BENCHMARKS editor for possible inclusion in a future issue.

Hard Disk Backups*

All hard disks should be backed up periodically. Backups prevent the loss of files if hard disk problems occur or files are accidentally deleted. The first major decision is to choose how often backups should be done. The most important fact to remember is that any files on the hard disk that have been changed or added since the last backup will be lost if something goes wrong with the hard disk. Therefore, backups should be done whenever enough files have changed that it would be very time consuming to reenter the information.

The next decision is the media to which the backups should be written on. The most common two media are floppy disks and tape. Tape drives are expensive (\$300 or more + tapes), but they provide a convenient means of doing backups. Floppy disks backups, on the other hand, can be done with your existing floppy drives. To

calculate the number of floppy disks you would need for a backup, just divide the amount of disk space your hard disk files occupy by the capacity of one floppy disk. Also, keep a couple of extra floppies around just in case.

The last decision that needs to be made is what backup software should be used. On an IBM PC or compatible using floppies, several software packages are available including BACKUP, FASTBACK, PCBACKUP, and PC FULLBACK. BACKUP comes with DOS and therefore does not cost extra. BACKUP has serious drawbacks, however. It is very slow, requires formatted disks, and a backup made by BACKUP can only be restored by the same version of DOS that was originally used to create it. Consult the DOS manual for more information on BACKUP.

FASTBACK, PCBACKUP (part of the PC Tools Deluxe package), and PC FULLBACK are all commercial products that cost from \$40 to \$100 and solve the problems of DOS BACKUP. The power and functionality of these three programs are roughly equivalent. ♦

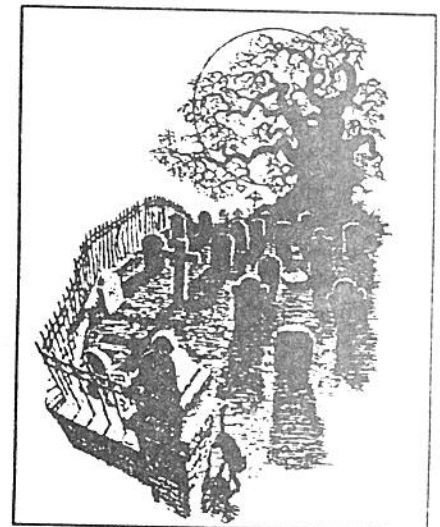
*Submitted by Billy Barron, VAX System Manager (BILLY@UNTBAX)

Trojan Horses and Viruses Could Affect You

By Claudia Lynch, Benchmarks Editor (AS04@UNTVMI)

There has been a lot of talk in both popular and computer industry publications recently about trojan horses and viruses. The June/July 1988 issue of *Benchmarks* even contained two articles, "Beware of Trojan Horses and Viruses" and "Preventive Programming," concerning this topic. People may still tend to feel like "this couldn't happen to me," however.

The purpose of this article is to point out that UNT is not an island, and that bad things can happen here also. In August, for example, someone uploaded a file into the IBM.UTILITIES file transfer area of the UNT BBS called ERRORST.ARC (9K). It turned out to be a trojan horse and was removed from the BBS. It is unknown, however, how many people were affected by this file before it was discovered. It is wise, therefore, to be extremely careful when acquiring public domain software. You should use some type of utility to protect your disk before running any new program, particularly if you got it off of a bulletin board. Many of these utilities are publically available, and some are on the VAX BBS. ♦



VAX COMPUTER CLUSTER

The NT BBS Policies and Procedures

Editor's Note: A portion of this "policy statement" was inadvertently omitted from the end of the previous issue of Benchmarks. We have reprinted it again, this time in its entirety.

The NT BBS is designed to provide the following "key services" for the NT community:

- User support for academic and administrative use of NT and personal computing systems:

NT mainframe systems

Microcomputers (including IBM and compatibles, Apple Mac-Intosh, TI Professional, Commodore Amiga)

Local area (NT LAN, Ethernet, Novell) and wide area (Bitnet, THENET) networking

- Forum for public discussion of issues involving students, faculty, staff, and alumni in the NT community - such issues may involve:
 - (Pedagogy) - teaching strategies; instructional technologies; distribution of syllabi; instructor posted class notes
 - (Research) - discussion of published research, questions on research design and statistical analysis; ideas for further research;
 - (Computing) - ideas regarding potential applications of computers in academic or other environments
 - (Campus Life) - announcements, university employment notices, discussion of events and issues involving campus life at the Univer-

sity of North Texas (e.g. meetings, speeches, conferences, concerts)

- Distribution of useful public domain and shareware software for several popular microcomputers (there is presently a download section for PD games, but this distribution is not one of the "goals" of the board and is simply provided for your enjoyment)

Policies

(General)

- Real first and last names must be used. Suspiciously fictitious names are subject to confirmation and removal of sign-on privilege.
- Use of initials for your first or last name is discouraged. If you use initials for signing on, you will be asked to establish a new account using your real first and last names, and the "initial" account will be disabled.

If your name is a duplicate of another BBS user (John Smith), use your first name and middle initial, separated by an " " (John_A Smith). If there is another John A. Smith on the board, you might include the first two letters of your middle name or use a different middle initial.

(Neither the first nor the last name may be longer than 14 characters.)

- Questions regarding the use of the BBS may be directed to other users or to SYSOP.
- In general, the BBS is to be considered "complete." However, if you have suggestions for improvements to the system, you are welcome to leave them in the BBS

SUGGESTIONS area. Suggestions will be considered, as time permits, according to the following guidelines:

Suggestions that involve significant improvements for relatively small programming investments will be considered first.

Suggestions that involve larger amounts of programming time may be implemented in the long term, if they are considered important for efficient and effective use of the board and if they conform to the -next-criterion.

Suggestions must enhance the board's ability to provide the previously stated key services. If this criteria is not met, then the suggestion will probably not be implemented.

(Software distribution)

- Presently, all users may upload and download software with no restriction. This is subject to change if we determine that this activity dominates telephone access lines.
- Software should be uploaded in the standard compression formats for various machines. Particular compression schemes to be used are:
 - IBM and compatible PCs - Phil Katz's ARC (PKARC & PKXARC)
 - MacIntosh - Raymond Lau's Stuff-It
 - Amiga - ARC

- While amusing items are ALWAYS welcome, we do not consider jokes based on insults and deprecation amusing. Also, while we do not consider ourselves pruders, we will erase files containing materials which could be potentially offensive. Please do not waste our time by making us erase stupid files that don't contribute to the purpose of the board.
- We do not have the time or the inclination to test every program that is uploaded for "viruses" or "trojan horse" programs or "pirated" software. Therefore, you download these files "at your own risk" and are responsible to test your files after downloading and before uploading if you are unsure. There are utilities such as CHK4BOMB and FLUSHOT in the IBM UTILITY area to test for "trojan" and "virus" programs. If we are notified that a particular program is dangerous or illegal, we will remove it immediately from the file transfer area, and determine who uploaded it.

Please do not knowingly upload a dangerous or illegal program to the file transfer area.

(Discussion areas)

- Discussions are organized into several different topical areas. All users are welcome to read and enter messages in any and all topic areas.

- Users are encouraged to post messages to the public.

From time to time, it may be appropriate to send private messages, but NT students, faculty, and staff are reminded that more powerful and efficient electronic mail facilities are available on the Vax and the IBM mainframe systems.

Remember that extensive amounts of private messages on the board will adversely affect BBS mail response time unnecessarily.

- Users are encouraged to keep the content of messages relevant to the topic.

If the content of your message does not conform to any of the

specified topic areas, use the PUBLIC INFO area for public messages, and the MAIL area for private ones.

- If you have a suggestion for the inclusion of another topic area, submit the suggestion in the BBS SUGGESTIONS area, and it will be considered for the level of interest it would generate and its usefulness in contributing to the key service goals stated earlier.

The fundamental objective of the board is to provide for an electronic medium for the communication of ideas and issues relevant to the pursuit of educational goals at the University of North Texas. While we encourage free exchange of information and ideas on the BBS, all messages (public and private) are subject to being monitored. Messages posted and software uploaded deemed inappropriate to this overall objective are subject to deletion.

Please exercise courtesy and thoughtfulness in your use of this board, so that it will be considered a useful and enjoyable service for the campus community. ♦

VMS TUTORIALS

The PRT Command

by Stephen L. De Rudder, VAX Operator (DERUDDER@NTSUVAXB)

The PRT command, not surprisingly, is used to print files. PRT will ask for more information when needed. It takes the form:

PRT [Printer [File]]

Some examples of the PRT command are:

PRT

(You will be prompted for all needed information).

PRT 3

(You will not be prompted for the printer destination).

PRT L PROG*.PAS

(You will not be prompted for the printer or file).

PRT can print files on several different printers located on campus. The printers and locations are:

Printer	Location
Laser	ISB
Remote 3	ISB
VAXcluster	GAB 5th floor lab
Remote 1	BA
(Laser Printer)	

You will be asked to specify a parameter indicating the printer destination. If you are using Waterloo/Script, you should enter 5 or W as the printer destination. This allows for the special formatting necessary for such output. Wildcard file specification is also permitted for all printers. The asterisk ("*") means any number of characters can be

replaced by the asterisk. The percent sign ("%") means any single character must replace the percent sign.

If you select the laser printer, you will be asked to specify a printing environment. Some of the most commonly used printing environments and their characteristics are listed here. A complete list can be examined from the system help by typing **HELP PRT LASER_FONTS**. When you are prompted for the printing environment you may type a question mark (?) for the list of print trains also.

Name	CPI	CPL	LPP	Rot	Comments
TNS1	13	132	65	0	
STD	13	132	66	0	Standard Output
DC01	10	80	62	90	
EL01	12	90	66	0	Elite font
HA01	5	49	22	0	Large chars
PI01	10	77	66	90	Pica font
PN01	13	132	66	0	
SC01	12	90	66	90	Elite cursive
TN01	10	77	66	90	Courier

CPI = chars per inch; CPL = chars per line.
LPP = lines per page; Rot = rotation in degrees

The translation of some of the fonts had to be corrected, because the wrong characters would be printed when sent to the laser printer. The brackets ([]) are translated to angled (< >) brackets on some fonts. The pipe character (|) is sometimes translated into a single vertical line. All other characters are translated normally.

PRT will not let you print any executable files (files with an extension of EXE). INDEXED files also will not print. Check the FILE ORGANIZATION when you type DIRECTORY/FULL to see if a file is INDEXED. You should avoid printing any non-text files such as object files.

You will be asked for a "filing name" when you send to any printer except the VAXcluster printer. The "filing name," usually your last name, tells the output operators the alphabetical box in which to file your printout. ♦

The SHOW Command

By Billy Barron, VAX System Manager (BILLY@UNTVAX) and Lucia Young, Lead VAX Operator (LUCIA@UNTVAX)

SHOW is one of the most useful VMS commands. It lets you view information about your environment. To change characteristics of the environment, the **SET** command should be used. For more information about **SET**, type **HELP SET** from the DCL \$ prompt or see the article "The SET Command" in the June/July 1988 *Benchmarks*.

This article will discuss some of the more popular uses of **SHOW**. For more information on the **SHOW** command, type **HELP SHOW** from the DCL \$ prompt.

SHOW BROADCAST

The **SHOW BROADCAST** command is used to see what classes of messages that are enabled and disabled for broadcast to your terminal. In the example below, the user can receive a message of any type except PHONE. If another user tries to PHONE this user, he will get a message saying that this user's phone is unplugged.

\$ SHOW BROADCAST

Broadcasts are currently disabled for:
PHONE

SHOW DEFAULT

SHOW DEFAULT reveals the current default directory. The result will be of the form:

\$number\$drive_name:[directory]

The *number* is for internal use within the VMS operating system. The *drive_name* is the disk drive you are currently on and the *directory* is the directory path to your current directory. In the example below, \$DUA0 is the *drive_name* and BILLY.TXT is the *directory*.

\$ SHOW DEFAULT
\$1\$DUA0:[BILLY.TXT]

SHOW LOGICAL

SHOW LOGICAL displays the equivalent string of all logical names. Logicals can be defined with the **DEFINE** or **ASSIGN** command. For more information on defining logicals, type **HELP DEFINE** or **HELP ASSIGN** at the DCL \$ prompt. Following is an example of the use of **DEFINE** and **SHOW LOGICAL**.

```
$ DEFINE INFILE DATA.DAT
$ SHOW LOGICAL INFILE
"INFILE" = "DATA.DAT"
(LNM$PROCESS_TABLE)
```

SHOW PROCESS

SHOW PROCESS can give you all kinds of useful information about their current process. The command **SHOW PROCESS/ALL** will show you all the information about your process, including your process privileges, dynamic memory area, quotas, and accounting information.

SHOW QUOTA

The **SHOW QUOTA** command allows you to see how much disk space you are currently using and how much you still have available. The space is listed in blocks, where each block is 512 bytes. For example:

\$ SHOW QUOTA

User [30OCT84,AC02] has 445 blocks used, 555 available, of 1000 authorized and permitted overdraft of 500 blocks on \$1\$DUA2

SHOW SYMBOL

SHOW SYMBOL displays the current value of one or more symbols. Symbols can be defined with assignment statements. For example:

```
$ DIR := "directory/size = all
/date"
$ SHOW SYMBOL DIR
DIR = "directory/size = all/date"
```

SHOW SYMBOL * will display all the defined symbols and their current value (* is the wild card character).

SHOW SYSTEM

SHOW SYSTEM displays the information about the status of each process in the system. It also shows the current node that you are on, the version of the VMS operating system that is running, and the uptime of the system.

SHOW TERMINAL

The SHOW TERMINAL command allows a user to look at terminal characteristics. This is especially useful when trying to find what type of terminal the VAX thinks you have. One thing to note is that the INPUT and OUTPUT speeds will always say 9600 baud. This is due to the way the Sytek LAN works.

SHOW TIME

SHOW TIME displays the current date and time. To see more information about the current date and time, type TIME at the DCL \$ prompt.

SHOW USERS

SHOW USERS displays a list of interactive users on the system. The list consists of the username, process name, process identification code (PID), and the terminal name. You can get a list of specific users by typing SHOW USERS xxx, where xxx are some characters you would like to match. For example, SHOW USERS AND would display a list of all the usernames that begin with AND. To display a list of interactive users on the VAX Cluster, type WHO at the DCL \$ prompt. ♦

Using VAX Kermit

By James Shoffit, Vax Operator
(JAMES@UNT.VAX)

VAX Kermit is a very powerful utility. It is used for uploading and downloading files to microcomputers running terminal emulation programs that support the Kermit protocol.

To get into VAX Kermit, just type KERMIT at the DCL prompt (usually a \$).

\$ KERMIT VMS

Kermit-32 version 3.3.111

Default terminal for transfers is: _VTA981:
Kermit-32 >

Now, the Kermit-32 is your prompt. From here you can issue Kermit commands. The most important are probably SEND and RECEIVE.

The SEND command will allow you to send a file(s) from the VAX to your computer. After you type the SEND command, VAX Kermit waits the number of seconds specified by the SET DELAY command, then begins transmitting your file. This gives you time to set up your communications package for downloading. (In ProComm 2.4.2, you would use the <PgDn> key and then select the Kermit Protocol).

The command format is: SEND *filename*, where *filename* is the name of the file on the VAX.

The RECEIVE command allows you to send files from your computer to the VAX. When you type RECEIVE, VAX Kermit begins waiting for you to upload a file. Note that you do not have to specify a filename. If none is given, then it will take the filename that is used on your microcomputer.

The command format is: RECEIVE or RECEIVE *filename*, where *filename* is what the uploaded file should be named

Server Mode

If you plan to transfer more than one file, then you might want to use SERVER mode on VAX Kermit. The SERVER command will cause VAX Kermit to enter server mode. Now, your computer terminal emulator can issue server commands to send and receive multiple files without having to give SEND or RECEIVE commands to VAX Kermit. Several communications packages are capable of sending commands to the VAX Kermit Server (In

Procomm, use the <Alt> <K> to pop up the Kermit Server commands).

The most important commands to be sent to the VAX Kermit Server are GET, SEND, and FINISH.

GET will get a file or files from the VAX, and download them to your microcomputer. For example, if you specified a filename of *.PAS then, it would download all your pascal files from the VAX onto your computer. It will even keep the same filenames as they had on the VAX.

SEND transfers a file or files to the VAX from your computer. You can again specify wildcard filenames to transfer groups of files.

FINISH simply tells the VAX Kermit Server that you are finished with server mode. You cannot type commands to the VAX while you are in server mode, so you must always do a FINISH after each session where you use the SERVER command.

The SET Commands

The DELAY parameter is the number of seconds to wait before sending data after a SEND command is given. This is used when VAX Kermit is sending a file to allow the user time to escape back to the computer communications package and start the download process. For example: SET DELAY *number-of-seconds*, where *number of seconds* is the (decimal) number of second to wait before sending data.

The SET FILE TYPE command will set the file type that Kermit is receiving or sending. A file type of ASCII (the default when you start VAX Kermit) should be used to receive text files which are to be used as text files on the VAX (Like source code for programs). The file type BINARY should be used for binary files, such as MSDOS.COM or .EXE files, which need to be kept in a format that allows the file to be returned without any changes. The file type FIXED is useful for uploading MSDOS.ARC files so they can be manipulated on the VAX using the ARC utility. Also note that the SET

FILE TYPE commands must be done before entering server mode. The command takes the form **SET FILE TYPE type**, where type is one of ASCII, BINARY, or FIXED

There is also a SHOW command which allows you to show various parameter settings. Its format is: **SHOW keyword**, where keyword can be a variety of parameters. To see all the parameters type **SHOW ALL**.

Getting out

To get out of VAX Kermit, you may type EXIT, QUIT, or just hit ^Z (Control-Z).

As with many VAX programs, extensive on-line help is available by typing the HELP command. If you have trouble getting Kermit to work properly, first verify that your communications package is set to **8 bit data, No parity, and 1 Stop bit**. If you still experience difficulties, contact the Help Desk at phone number 565-4050. ♦

The ARC and ZOO Utilities

By Stephen L. De Rudder, VAX Operator
(DERUDDER@UNTVAX)

ARC and ZOO are file compression utilities. They will take a file and make it smaller by squeezing it or crunching it (a file that takes 10 blocks may only take 6 blocks after compression). Compressed files take less disk space (which the cluster is running low on) and allows you more room for other files. ARC and ZOO are not compatible. This means you can't use one to compress a file and use the other to decompress the file. ZOO is a little better at compressing than ARC, but ARC has the advantage of being compatible with the ARC utility on PCs. The good features of each are described below.

- ARC is compatible with ARC on the PCs. You can compress a file on the VAX and download it to

the PC then decompress it on the PC (it will work for uploading also). This will speed up up/down loading on the VAX.

- ZOO will compress all files including executable files. ARC will only compress text files. (ARC will compress EXE files, but they will not translate back to EXE files correctly.)
- ZOO will compress any size files. ARC can only compress files that are below 700 blocks (the actual number of blocks depends on the compression method).
- ZOO will compress the files smaller than ARC will. This is most notable on the large files.
- ZOO compresses files faster than ARC will compress them. Again this is most notable on the large files.

To use one or both of these utilities, put the line of your choice (or both) in your LOGIN.COM file.

```
$ ARC := "$Sys$Utility:Arc"
$ ZOO := "$Sys$Utility:Zoo"
```

The utilities compress files and store them in another file (with an exten-

sion of .ARC or .ZOO). More than one file may be compressed and stored in the same archive file. Wild carding may be used on the file or files to be compressed or decompressed.

The format of the ZOO command is as follows (the ARC command has the same setup, but doesn't have all the options of the ZOO command.):

```
ZOO {acDeILPTuUvx}
[acdEfInMNoOpPquz1:/.] archive
file
```

{a...x} - are the commands for ZOO
[a....] - are options after the command for ZOO

archive - Is the name of the file where all the compressed files are stored
file - Name of specific file to added or to be decompressed.

Note: There is no space between the command and the option(s).

ARC and ZOO have help information that can be printed on the screen and easily read. The basic commands for each are the same. Enter **ZOO H** or **ARC H** to get detailed help on the utility of your choice. **Note:** Only ZOO should be used for EXE files. ♦

VAX CLUSTER USAGE STATISTICS

August Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	71822	18.1
2. SET	VMS Utility	52692	13.3
3. DIRECTORY	VMS Utility	49909	12.6
4. DELETE	VMS Utility	33086	8.3
5. TYPE	VMS Utility	23962	6.0
6.. SHOW	VMS Utility	17400	4.4
7. NETSERVER	DECnet Server	12409	3.1
8. SEND	BITNET Message Utility	11915	3.0
9. EDT	Editor	11751	3.0
10. User Programs	Compiled Programs	10361	2.6

Total

396742

August Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	45 04:44:09.59	84.1
2. ACC	VMS Accounting Utility	1 19:25:59.41	3.4
3. PASCAL	PASCAL compiler	0 16:06:44.51	1.2
4. EDT	Editor	0 14:05:52.52	1.1
5. BACKUP	VMS Utility	0 13:12:11.13	1.0
6. LOGINOUT	User login	0 08:46:10.92	0.7
7. MAXCLAS	ERDAS Utility	0 08:40:45.28	0.7
8. TDP	PACS+ Billing Utility	0 06:16:46.56	0.5
9. BBS	Bulletin Board Utility	0 06:16:46.56	0.5
10. MAIL	VMS Utility	0 05:12:44.35	0.4
Total		53 18:04:42.10	



ADMINISTRATIVE INFORMATION SYSTEMS

Staffing Changes in Administrative Information Systems

Sean Widmer, who was the Voice Response Analyst for a brief period of time, left the Computing Center in July to take a job in the Dallas/Fort Worth Metroplex. Nancy Fisher, who was a Programmer/Analyst on the General Systems Team, is now heading the Voice Response Team.

Doug Heruska, Documentation Specialist since January of 1987, resigned in September to accept a Computer Based Training position in Addison. The Documentation Specialist position is unfilled at this time.

A number of new people have joined the ranks of Administrative Information Systems. They are:

- Fiscal Team - Dan Strange.
- General Student Services Data Systems Team - Deirdree Hayes.
- Office Automation - Pok Seon Kwong (part-time).
- Payroll/Personnel Data Systems Team - Shawn Brown, Rong Wang.
- Student Records - Patrick Chang, Linda Wallace

We are glad to have all these fine people working here in the Computing Center. ♦

General Systems Team Reorganized

The General Systems Team has recently been divided into two teams, the Student Services Data Systems Team (SSVCDSTM) and the General Data Systems Team

(GENDSTM). George William remains the leader of the General Data Systems team, which will consist of the team leader and a currently vacant programmer position. GENDSTM will continue to support the alumni/advancement system, the facilities inventory and utilization reporting system, and other systems it has supported in the past with the exception of the financial aid management system..

Mashid Grooms, a programmer/analyst on the original General Systems Team, is the team leader of the new Student Services Data Systems Team. Other members of the team are Virginia Haynes and Deirdree Hayes. The SSVCDSTM team supports the student services division of the University. The primary system initially supported by this team is the Financial Aid Management System (FAMS). ♦

COMPUTER SERVICES

Mainframe Performance Statistics

NAS/8083 Dual Processor Performance Statistics for August

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	744	6.49	737.51	0.20	737.31	99.9%
ACAD	MUSIC/SP	744	39.40	704.60	1.30	703.30	99.8%
ACAD	MVS/JES2	744	7.36	736.64	0.64	736.00	99.9%
ACAD	COMPLETA	744	7.74	736.26	3.12	733.14	99.6%
ADMN	MVS/JES2	744	7.36	736.64	4.21	732.03	99.9%
ADMN	COMPLETA	336	0.00	336.00	0.00	336.00	100.0%
ADMN	ADABASA	744	29.84	714.16	19.86	694.30	97.2%

System Uptime = (Production Hours Achieved) / (Planned Production Hours)
 Production Hours Achieved = (Planned Production) - (Unplanned Maintenance)
 Scheduled Operating Hours = (Planned Maintenance) + (Planned Production)
 MUSIC/SP Planned Maintenance Hours include 19.27 hours for system backup and 12.97 hours for VM/SP3 system backup.
 ADABASA'S Planned Maintenance Hours include 22.31 hours for system backup.
 The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 99.4% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for

scheduled operation. Lost productivity hours were contributed to by the key causes appearing in the table below.

ACAD CPU:

CPU, Tape, and Disk Subsystems (NAS)

1. Preventive Maintenance on ACAD CPU.	5.93 HOURS
2. Microcode upgrade on ACAD CPU.	<u>2.19</u>
TOTAL:	<u>8.12 HOURS</u>

Miscellaneous

1. MUSIC/SP system failures.	1.39 HOURS
2. COMPLETA system maintenance..	<u>2.32</u>
TOTAL:	<u>3.71 HOURS</u>
GRAND TOTAL FOR ACAD	11.83 HOURS

ADMN CPU:

CPU, Tape, and Disk Subsystems (NAS)

1. Preventive Maintenance on ADMN CPU.	7.53 HOURS
2. IOP processor failure..	<u>4.95</u>
TOTAL:	<u>12.48 HOURS</u>

Miscellaneous

1. ADABASA DASD file maintenance..	13.60 HOURS
3. ADABASA system tuning/improvements..	<u>1.31</u>
TOTAL:	<u>14.91 HOURS</u>
GRAND TOTAL FOR ADMN:	27.39 HOURS

DISK BACKUP SCHEDULES

OS/MVS Backup Schedule

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems on the NAS CPU and their contents is done once every two weeks at some low activity period over a weekend.

MUSIC/SP Backup Hours

A message will be sent to all users signed on to MUSIC/SP approximately 10 minutes before backups are begun. It will be in the form ****MUSIC SHUT DOWN AT xxxx AM-SCHEDULED BACKUP****. To find out the backup hours while signed on to MUSIC/SP, enter **HELP HOURS**.

The following backup schedule is currently in effect:

Tuesday 3 a.m. (for about 3 hours)

Weekly backup

Wednesday - Saturday 4 a.m. (for about 2 hours) Daily backup

Saturday Midnight (for about 2 hours) Daily backup

PHOENIX Backup Hours

PHOENIX is backed up weekly on Sunday night. The backup begins at midnight and lasts for approximately 30 minutes.

VAX Backup Schedule

Incremental backups of the VAXcluster are performed Monday through Thursday at 3 a.m. Users do not have to log-off, but any files that are open at the time of the backup will NOT be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done once a month. This procedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut-down for this. Watch the system log-on message for specific times and dates.

NOTE: Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done. ♦

ACADemic (NAS) Program Hit Parade

August Top Ten Programs : Frequency Of Runs

Program	Description	Number of Runs	Percent of Total
1. PGM = *.DD	Compiled Program	6443	15.8
2. IEWL	Linkage Editor	6203	15.2
3. IKFCBL00	VS COBOL Compiler	5292	9.2
4. SASLPA	SAS	3748	12.2
5. IEBGENER	IBM Utility	2972	7.3
6. IEBPTPCH	IBM List Utility	2242	5.5
7. IDCAMS	VSAM Utility	2178	5.4
8. SCRIPT	Waterloo/SCRIPT	1856	4.6
9. SPSSX	SPSS ^X	1473	3.6
10. IEV90	Assembler H	1322	3.2

August Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	52034	47.0
2. PGM = *.DD	Compiled Program	15729	14.2
3. FATS	Tape Verification Program	11466	10.4
4. SCRIPT	Waterloo/SCRIPT	7064	6.4
5. SPSSX	SPSSX	6780	6.1
6. IKFCBL00	VS COBOL Compiler	4904	4.4
7. ISTINM01	VTAM Utility	1270	1.1
8. PTPCH	Dataset Lister	941	0.8
9. IEV90	Assembler H	903	0.8
10. IEWL	Linkage Editor	757	0.7

The programs listed in this section were used the most frequently on the NAS CPU during the month of August, 1988.

Please Note that ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for University administrative purposes is termed ADMN. ♦



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Claudia Lynch, *Benchmarks* Editor
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Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling 565-2324.

NAME: _____ PHONE: _____

DEPT: _____ CLASSIFICATION: _____

I wish to attend:

● **Introduction to MUSIC/SP, Part I (ISB 110):**

___ Monday, October 24: 6-8 p.m.

___ Tuesday, October 25: 10 a.m.-Noon

___ Wednesday, October 26: 9-11 a.m.

● **Introduction to MUSIC/SP, Part II (ISB 110):**

___ Monday, October 31: 3-5 p.m.

● **Introduction to SAS (ISB 110):**

___ Thursday, October 27: 1-3 p.m.

● **Introduction to SPSS-X (ISB 110):**

___ Friday, October 28: 9-11 a.m.

● **File Handling With SAS, SPSS^X & BMDP (ISB 123):**

___ Tuesday, November 1: 9-11 a.m.

● **Introduction to VAX/VMS, Part I (ISB 110):**

___ Wednesday, October 26: 3-5 p.m.

● **Introduction to VAX/VMS Part II (ISB 110):**

___ Tuesday, November 1: 3-5 p.m.

● **Introduction to BitNet (ISB 123):**

___ Wednesday, November 2: 10 a.m.-Noon

● **Introduction to PROCMM**

___ Thursday, November 3: 2-3 p.m.

● **Introduction to PCWS :**

___ Thursday, November 3: 3-4 p.m.

I would like to see more classes offered: ___ on weekends; ___ at night.

The classes I am interested in are: _____

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